

**United States Environmental Protection Agency
Region III
Corrective Action Program**

**Environmental Indicator Inspection Report
For**

**Emtrol, Inc.
3050 Hempland Road
Lancaster, Pennsylvania 17601**

EPA ID No. PAD054139506

Prepared By



August 2010

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Note: The EI site visit was conducted on December 18, 2008.

RCRA SITE INSPECTION REPORT

Purpose: To gather relevant information from the former Emtrol, Inc. (Emtrol) facility, in order to determine whether human exposures and groundwater releases are controlled, as per Environmental Indicator Determination forms. (Note: The United States Environmental Protection Agency [USEPA] generator ID PAD054139506 was originally assigned to International Signal & Control Corporation (ISC) on October 9, 1980, who generated waste solvents over 20 years at this facility; in 1995, Emtrol inherited the ID for the generation of smaller quantities of waste paint and solvents in drums.)

Documentation Review: Prior to the site visit, Mr. Christopher Plominski and Mr. JP Kumar, of Michael Baker Jr., Inc. (Baker), conducted a records review at the Pennsylvania Department of Environmental Protection (PADEP) South Central Regional Office (SCRO) and the U.S. Environmental Protection Agency (USEPA) Region III Philadelphia Office files and found limited documentation regarding ISC and Emtrol. Through discovery, six property owners were identified: ISC; High Associates, Ltd.; Emtrol, Inc.; York Technical Institute, Inc. (YLC, Inc.); Blackford Development, LLC; and York Tech Associates, LP. Owner representatives were obtained, if possible, and contacted for facility history:

- ISC – no contact obtained
- High Associates – Mr. Lin Good (no facility information provided)
- Emtrol – Mr. Matt Anater (limited facility information provided)
- York Technical Institute, Inc. – no contact obtained
- Blackford Development – Mr. Nick Karamanos (legal counsel) (facility information provided)
- York Tech Associates – Mr. Ken Richards (no facility information provided)

During the site visit, when monitoring wells were observed onsite, additional documentation was requested from the current owner (York Tech Associates). York Tech Associates referred PADEP to Blackstone Consulting, LLC (Blackstone) who conducted the investigations in support of a potential buyer of the property (CMS Companies [CMS]). Subsequent to the site visit, the PADEP SCRO office, through the diligence of their personnel, obtained documentation regarding these investigations.

Attendees:

Name	Organization	Phone Number	E-Mail address
Ms. Linda Houseal	PADEP	717-705-4919	lhuseal@state.pa.us
Ms. Lisa Wilt	PADEP	717-705-4910	lwilt@state.pa.us
Mr. JP Kumar	Baker	412-269-6060	jpkumar@mbakercorp.com

Meeting Summary: A meeting at the former Emtrol facility was held with the attendees noted above on December 18, 2008. A representative of the current owner (York Tech Associates) was not available for the site visit. A determination was made by the site visit attendees that because the interior of the building was reportedly stripped and converted to a culinary school, only the exterior of the property would be observed. The intent of the site visit was conveyed to Mr. Ken Richards of York Tech Associates via the receptionist, who relayed back that Mr. Richards acquiesced to a visual survey of the property surrounding the building. Site investigations reports, that were subsequently provided by Blackford Development and obtained by PADEP, were not available at the time of the site visit. Therefore, the site visit was conducted to with the intent to view and record only readily identifiable features outside the building, such as monitoring wells.

Previously, on October 29, 2008, Mr. Kumar had a phone conversation with Mr. Anater (former Vice President of Emtrol) to discuss the facility operations and history. Limited information regarding their operations from approximately 1995 to 2003 was verbally relayed, indicating that under Emtrol's occupation of the facility, hazardous waste generation was limited to a minor volume of solvent generation from painting cleanup operations.

Photographs of the site visit are presented in Appendix A – Photographs.

A. Location and Operational History of the Facility, Including all Wastes Generated at the Facility and their Management.

Site Layout and Background Information

The facility is an approximately 54,000 square-foot single-story building on a 7.1-acre parcel of land located in East Hempfield Township at 3050 Hempland Road, west of Centerville Road and south of United States (US) Route 30. Appendix B: Figure 1- Facility Location Map shows the location of the facility.

The facility began operation in 1971 (1973 per the Draft Phase I Environmental Site Assessment [Draft Phase I ESA], Blackstone Consulting LLC [Blackstone], February, 2007) under the ownership of ISC, subsequently known as ISC Defense Systems, Inc., as noted in the Part A Permit Application that was submitted in 1980. A letter dated February 17, 1981 to the USEPA from ISC, indicates that they leased the facility and the owner was High Properties. On November 4, 1986 and February 26, 1988, the facility notified the USEPA of the name change to ISC Technologies, Inc. ISC Defense Systems, Inc., a division of International Signal and Control Corporation, was acquired by Ferranti International, P.L.C. in 1987, according to a March 1990 news item in the New York Times.

According to the Draft Phase I ESA prepared for discussion purposes on privileged and confidential basis for CMS Companies (Blackstone, 2007), the land was undeveloped, residential, and/or agricultural from at least 1864 until the construction of a structure similar to the present-day structure in 1973. ISC conducted electronics manufacturing operations at the facility from approximately 1973 to 1993 and possibly used solvents in the manufacturing and assembly of electronic components.

Hazardous waste codes associated with ISC operations included F001, F002, and F003 and other F-listed wastes, i.e. solvents typically associated with cleaning or degreasing operations. According to the Draft Phase I ESA, documentation regarding past ISC operations and materials handling indicated the use of two vapor degreasers in the ISC production lines. Degreasing solvents used by ISC were conjectured to have included tetrachloroethylene (PCE) and trichloroethylene (TCE) (Blackstone, 2007). In December 1993, Ferranti International, P.L.C. was forced into bankruptcy. According to a letter dated May 18, 1993, it appears that the Ferranti Technologies, Inc. division was leasing the facility from High Associates, a division of High Industries. The lease was being terminated by Ferranti Technologies, Inc., and the property was intended to be sold by High Associates.

In 1995, Emtrol purchased the property from High Associates, according to a telephone interview on October 29, 2008 with Mr. Anater (This information contradicts the Draft Phase I ESA [Blackstone, 2007], which stated that Emtrol leased the property). Emtrol used most of the building space for a design and engineering office. Some space was also used for assembly of electronic controls and automatic storage equipment in support of the baked goods industry. In April 2003, Emtrol became a subsidiary of Weldon Solutions, Inc. of York, Pennsylvania, which

acquired its assets. On April 29, 2003, Weldon Solutions, Inc. originally announced that the facility would continue to operate; however, subsequent information (supplied on May 12, 2008) indicated that Weldon acquired only non-physical assets and intellectual property. The physical property and structures of the facility were acquired by YLC, Inc., and the entire building was stripped down and facilities were installed for York Technical Institute (YTI), which started operations in 2003. In a letter dated August 29, 2005, Originators Resource Group, Inc. indicated the owner as YTI, Inc. and that the property was under contract to be sold to Blackford Development. Blackford Development purchased the property shortly after YTI started their operations and, as of 2008, were leasing it to YTI (Karamanos personal conversation; October 30, 2008). Appendix B: Figure 2 - Facility Layout and Sampling Locations shows the facility layout and its immediate surroundings.

In 2007, an investigation in support of a Draft Limited Environmental Phase II ESA (Blackstone, 2007) by a prospective buyer (CMS) resulted in the detection of contamination associated with solvent compounds in the shallow groundwater. The levels exceeded PADEP Medium Specific Concentrations (MSCs) for Used Aquifers containing less than 2,500 milligrams per liter (mg/L) of total dissolved solids (TDS). PADEP personnel obtained the reports and data from CMS in support of this EI. At least two monitoring wells from the ESA were visible during the site visit in 2009. The Draft Phase I ESA identifies the current owner at York Tech Associates.

Appendix C contains a list of documents and references used in this report.

Permit and Regulatory Action History

USEPA generator number PAD054139506 was assigned to ISC on October 9, 1980. The owner of the property (High Associates) initially refused to sign the permit application submitted by ISC because of their delinquency in meeting lease obligations; eventually (in April 1981), their signature was secured and the permit application was considered complete.

An interim status permit was issued to ISC on August 28, 1981, allowing the facility to store 2,750 gallons of wastes carrying F001, F002, F003, D008, and U140 codes in containers.

On March 12, 1985, PADEP served a letter-agreement in settlement for a violation that cited the facility for failing to develop a Preparedness, Prevention, and Contingency (PPC) plan from

November 1981 until November 1984. The PPC plan was issued on February 17, 1986 and updated in 1986, 1988, 1989, 1990, 1991, 1992, and 1993.

On February 26, 1988, the facility's name change from ISC Defense Systems, Inc. to ISC Technologies, Inc. was communicated to the USEPA.

On December 13, 1989, the facility notified PADEP of the status of corrective measures that were taken pursuant to an inspection report from April 11, 1989. The facility had installed a hazardous waste storage building and instituted a hazardous materials training program.

On November 9, 1992, PADEP informed the facility that the Bureau of Radiation Protection had noted during a recent site visit that the equipment (presumably radiation-related equipment) had been inactive and portions of the facility associated with the operation of this equipment had been closed. In this letter, PADEP requested that should the unit be returned to service, sold, salvaged, or removed from the facility, the Bureau of Radiation Protection should be notified.

On March 23, 1993, Ferranti Technologies requested USEPA terminate the facility's USEPA ID and TSD status. The facility provided attachments of two recent inspections that revealed that no hazardous wastes were stored in the building or on the surrounding property. On May 18, 1993, in a letter to USEPA, High Associates indicated that Ferranti Technologies was leasing the facility from High Associates and that High Associates had been assigned the USEPA ID in response to a protective filer. According to this letter, Ferranti Technologies was vacating the premises and it requested that the USEPA ID be deleted.

On August 31, 1995, Emtrol submitted to the USEPA a notification of the generation of small quantities (less than 100 kg/month) of wastes carrying F001, F003, and F005 codes. The USEPA ID number previously assigned to ISC (PAD054139506) was entered on this notification. Thus, Emtrol began using this USEPA ID.

On July 25, 1997, Emtrol informed PADEP that there were no heavy metals in the paints that were used during 1996 and 1997 at their facility. No other regulatory actions or permitting information was documented related to Emtrol's activities. According to Mr. Anater, wastes generated at the facility were from a minor volume of painting and solvents from cleanup. To the best of Mr. Anater's recollection, no industrial discharges or air discharge permits were

reportedly required as part of Emtrol's operations, which correlates with the findings in the regulatory records.

National Pollution Discharge Elimination System (NPDES)

No records of a NPDES permit were found during the facility records search. According to a Draft Phase I ESA, the potential exists that for about a year, the facility may have discharged industrial waste via the septic system prior to its connection to the Lancaster Area Sewer Authority (LASA) system.

B. Description of all Solid Waste Management Units (SWMUs) and/or Areas of Concern (AOCs)

SWMUs

No SWMUs were identified at the facility.

AOCs

No AOCs were identified at the facility; however, hazardous waste was stored in drums during ISC's operations. The September 1984 and January 1989 inspections did not identify a specific waste storage area. A new Model #22 Safety Storage Containment Building was noted delivered on November 30, 1989 in the December 1989 letter regarding corrective measures taken by the facility. An updated PPC plan described a hazardous waste storage building (with the dimensions of approximately 22-feet by 9 feet) as one of the buildings at the facility. Note: No other details of the storage operations or inspection reports were available.

Additionally, a former septic system (west side of original building but covered by building expansion) was reportedly used for about a year to discharge industrial waste, prior to its connection to the LASA system. The potential to subsurface impact via the former septic system was identified as a recognized environmental concern (REC) during the Phase I ESA. The Limited Phase II ESA was conducted to address the REC. Details are provided in the *Investigations and Remedial Actions to Date* section.

Storage Tanks

On December 14, 1989, Ferranti International Defense Systems, Inc. registered a 10,000-gallon

underground storage tank (UST) (Tank Number 001) containing No. 2 fuel oil (heating oil), which it reported as having been installed in June 1985. Note: a 10,000-gallon UST was identified in the February 19, 1993 Ferranti PPC. On February 1, 1990, High Associates registered a UST with the same number containing heating oil, but with an 8,000-gallon capacity and having been installed in 1972. On September 15, 1994, High Associates, Ltd. completed the UST Closure Notification Form for a 8,000-gallon No. 2 fuel tank that was installed in December 1972. On October 26, 1994, during removal, approximately 20 cubic yards of contaminated soils resulted from minor spills and overfills from the UST was reported to PADEP. No bedrock or groundwater was reportedly encountered. On October 31, 1994, High Associates, Ltd. completed the Registration of Storage Tank form for the removal of the 10,000 gallon heating oil UST on October 27, 1994 (installed in 1972). On November 21, 1994, High Industries reported the removal and closure of a 6,000-gallon UST and piping that was reported to have contained No. 2 fuel oil. Note: The UST size of 6,000 gallons was determined upon removal and the closure report noted the incorrect size was identified during the registration. On February 13, 1995, PADEP approved the closure report, as described subsequently under *Investigations and Remedial Action to Date*.

No USTs were observed during the Phase I Environmental Assessment (Phase I EA) in 2005 (Property Solutions, Inc., October 2005), and YTI representatives were not aware of the presence of any in 2005.

According to a review of the documentation available for the property, the Draft Phase I ESA reported that no USTs existed at the property in 2007. The former 6,000-gallon heating oil UST (registered as a 10,000-gallon and referred to as both a 6,000-gallon and 8,000-gallon UST) located within ten feet of the north side of the building was removed in October 1994.

Investigations and Remedial Actions to Date

Environmental Investigation (1994)

During a Phase I audit in support of potential redevelopment of the property, sheens were observed on accumulated rainwater at roof downspouts. The locations were evaluated further on November 18, 1994 by Lancaster Environmental Sciences, Inc. (LES). Accumulated water and soil from test pits were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and total petroleum hydrocarbons (TPH) in gasoline-, diesel-, and motor oil-

ranges to determine the presence of contaminants. TPH, naphthalene, and 1,2,4-trimethylbenzene were detected in the water. TPH, n-butylbenzene, sec-butylbenzene, naphthalene, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,2-propanediol, octane, nonane, and decane were detected in soil. On December 13, 1994, LES returned to the facility to delineate the area of contamination. Initially, the contaminated area was identified as a small area extending 6 feet from the west side of the building. As additional samples were evaluated using an organic vapor analyzer (OVA), very low levels of vapors (less than 0.5 parts per million [ppm]) were detected along the foundation of the building. The evaluation indicated that nominal levels of contamination are confined to under the building's foundation, at a depth of 10 to 20 inches, and the small area on the west side of the building. The December 16, 1994 letter to PADEP concluded that the detected contaminant concentrations were below established cleanup levels, that there were no remaining sources, and that the area was serviced by public water supply. On December 21, 1994, PADEP agreed that no remediation was required.

UST Closure (1994)

On October 26, 1994, High Associates removed a 6,000-gallon UST system that was located within the lawn area between the building and US Route 30 and reported to have contained No. 2 fuel oil. At the time of the UST removal, the facility was vacant. The overall condition of the tank was satisfactory.

During the UST removal, approximately 30 tons of visually-impacted contaminated soil were removed, apparently the result of overfill and piping failure. No groundwater was encountered. Soil samples were collected when clean soil was encountered at a depth of approximately 11 feet below the ground surface (bgs) and analyzed for TPH, benzene, toluene, ethylbenzene, and xylenes (BTEX). The results indicated that these compounds were less than their detection limits.

A November 11, 1994 letter from Edward Armstrong & Sons, Inc. to High Associates documented the removal of the 6,000 gallon UST. Previously, the UST was identified as a 8,000 and 10,000-gallon capacity tank.

Phase I ESA Prior to Emtrol Purchase of Property in 1995

On November 21, 1994, High Associates, Ltd. submitted a closure report to PADEP. On February 13, 1995, PADEP accepted the closure report and determined that no further remediation was required.

Sale of Property to Emtrol (1995)

According to a telephone interview with Mr. Anater (October 29, 2008), Emtrol purchased the property and building approximately in 1995. Prior to Emtrol's occupation in 1995, a Phase I ESA was conducted based on a requirement of the Bank of Lancaster County. The ESA contained no findings adverse to the sale of the property, according to a former employee of Emtrol (October 29, 2008 telephone interview with Mr. Anater).

Phase I Environmental Assessment (2005)

On October 18, 2005, as part of a final Phase I EA for YTI, a file review of PADEP and USEPA files was conducted by Property Solutions, Inc., and submitted to Morgan Stanley Mortgage Capital, Inc. No environmental conditions that suggested further investigation were recognized. Documentation appended to this report indicated the presence of 10 groundwater wells within a 1-mile radius surrounding the facility, including a public water supply well within a 0.5 to 1.0 mile radius north of the facility, and two wells within a 0.25 to 0.5 mile radius in a southeasterly direction.

Draft Phase I Environmental Site Assessment (2007)

A Draft Phase I ESA report, dated February 14, 2007, was prepared for discussion purposes on privileged and confidential basis for CMS Companies in support of their potential purchase of the property from YTI. Upon PADEP's request, this Draft Phase I ESA was supplied by Blackstone. This report identified one recognized environmental condition associated with the former manufacturing operations at the facility. The electronics manufacturing operations under ISC from approximately 1973 to 1993 represented a REC based on the widely recognized use of solvents in the manufacturing and assembly of electronic components. Hazardous waste codes associated with past ISC operations included F001, F002, and F003. F-listed wastes are generated by common manufacturing and industrial processes, such as solvents that have been used in cleaning or degreasing operations. According to this report, documentation regarding past ISC operations and materials handling also indicated the use of two vapor degreasers in the ISC production lines. This report further supposed that typical vapor degreaser solvents included TCE, methylene chloride, and PCE, and that these chlorinated solvents readily penetrate concrete floors and can impact underlying soil and groundwater. Based on the duration (20 years) of ISC operations, the recognized use of chlorinated solvents in the electronics manufacturing process, and the time period of operation during the 1970s and early 1980s which pre-dates various hazardous substance/waste reporting, handling, and disposal requirements, the former site use by ISC was considered a REC. Note: The locations of the degreasers were not described in the reviewed documents.

The Draft Phase I ESA indicates that “a septic system located along the western side of the site was used when the facility was first constructed in 1973”. In 1974, the facility was connected to the LASA and therefore, it was further surmised that chlorinated solvents may have also been discharged via the former septic system. The location of the septic system was not described in the Draft Phase I ESA, but did identify it as a REC. Sources quoted in the Draft Phase I ESA did not appear to have detailed knowledge of records of the septic system.

The Draft Phase I ESA reported that “no water wells” were present at the facility. No wetlands or ponded areas were documented.

Draft Limited Phase II Environmental Site Assessment (March 2007)

In February of 2007, as part of a Draft Limited Phase II ESA to further evaluate the RECs, Blackstone collected soil and groundwater samples from six boreholes (SB-01 through SB-06) at various locations outside the building perimeter. Appendix B: Figure 2 - Facility Layout and Sampling Locations shows the Draft Phase II ESA sampling locations.

A Draft Limited Phase II ESA report dated March 14, 2007 was prepared for discussion purposes on an attorney-client privileged basis as attorney work product material by Blackstone. Upon PADEP’s request, this Draft Limited Phase II ESA report was provided by Blackstone, along with several tables, figures, and related documentation. The Draft Limited Phase II ESA report described the field investigation, analytical findings, and provided recommendations for further work.

Soil samples were collected continuously from beneath the asphalt/concrete surface to the top of the saturated zone, field screened with a photoionization detector (PID) for VOCs, with one soil sample from each borehole submitted for USEPA Method 8260 VOC analysis. Boring depths ranged from 13.5 to 28 feet bgs. VOCs were detected at less than PADEP Residential Direct-Contact MSCs, Non-Residential Direct Contact MSCs, as well as Soil-to-Groundwater MSCs for Used Aquifers as reported in the Limited Phase II ESA (Blackstone, 2007).

The regional soil was characterized as moderately permeable, friable silty loam. The bedrock beneath the surficial deposits is a stratified sequence shale and limestone (Cambrian-age Kinzers Formation). Soil borings indicated the presence of clayey soil along the southern side of the building where the contamination was prevalent and silty sand along the northwestern side of the building. Groundwater was encountered in all boreholes at the site. The depth to groundwater in the boreholes

ranged from approximately 5 feet bgs to more than 19 feet bgs. Based on area topography and field observations, groundwater in the region was anticipated to flow to the southeast. According to the United States Geological Survey National Water Summary – 1986 the bedrock aquifer beneath the region was expected to be “carbonate aquifers”, which are the primary water-bearing formations in Pennsylvania.

Upon completion of soil sampling, a one-inch diameter polyvinyl chloride (PVC) temporary monitoring well was installed within each of the six boreholes. Temporary monitoring wells were developed by removing approximately three well volumes or until groundwater was free of fines. Following well development, the wells were allowed to stabilize. Several temporary monitoring wells could not be fully developed because of low water volume and very slow recharge, which indicated limited volume of water in the water-bearing deposits. Groundwater was sampled when field parameters stabilized and the groundwater was allowed to recover. Some monitoring wells were sampled before stabilization was achieved, owing to low sample volume and slow well recovery.

The report concluded the soil samples did not reveal target compound concentrations above applicable MSCs for Statewide Health Standards for residential (R) or non-residential (NR) thresholds. Groundwater samples revealed several VOCs with concentrations exceeding the applicable MSCs for Statewide Health Standards for used aquifers. VOCs detected in groundwater included TCE at SB-01 (west of the building), and 1,1-dichloroethene (1,1-DCE), PCE and TCE at SB-03 (south of the building). With the exception of 1,1-DCE, the concentrations of VOCs were below the NR used aquifer or NR non-used aquifer MSCs. The concentration of 1,1-DCE in SB-03 was 84 micrograms per liter ($\mu\text{g/L}$) which exceeds the NR used aquifer and NR non-used aquifer MSCs of 7 $\mu\text{g/L}$ and 70 $\mu\text{g/L}$, respectively. Note: At SB-01, TCE (5.2 $\mu\text{g/L}$) exceeded its NR used aquifer MSC (5 $\mu\text{g/L}$). At SB-03, concentrations of PCE (6.3 $\mu\text{g/L}$) and TCE (9.6 $\mu\text{g/L}$) exceeded their NR used aquifer MSCs of 5 $\mu\text{g/L}$ and 5 $\mu\text{g/L}$, respectively.

Four additional monitoring wells are identified on a sample location figure in the report. Monitoring wells MW-7 and MW-10 are located south and southwest of the building, closest to the area exhibiting the highest concentrations of VOCs; MW-9 is located along the southwestern side of the parking lot, and MW-8 along the southern side of the parking lot (Appendix B: Figure 2 - Facility Layout and Sampling Locations). Results of March 28, 2007 groundwater sampling of MW-7

through MW-10 were presented in a April 10, 2007 analytical report from Test America and summarized in a draft table. This table was submitted to PADEP separately from the draft report.

The groundwater sample from MW-7 contained PCE (42 µg/L), TCE (11 µg/L), and 1,1-DCE (88 µg/L) at concentrations exceeding their respective NR used aquifer MSCs of 5 µg/L, 5 µg/L, and 7 µg/L, and the NR non-used aquifer MSC for 1,1-DCE (70 µg/L). The groundwater sample from MW-10 contained 1,1-DCE (98 µg/L) and TCE (21 µg/L), exceeding their respective NR used aquifer MSCs of 7 µg/L and 5 µg/L, and the NR non-used aquifer MSC for 1,1-DCE (70 µg/L). 1,1,1-Trichloroethane (1,1,1-TCA) also was detected in the groundwater samples collected from MW-7 (29 µg/L) and MW-10 (54 µg/L), at concentrations below its NR used aquifer MSC (200 µg/L).

The Draft Limited Phase II ESA report recommended that the owner of the property submit a notice of intent to remediate (NIR) to PADEP. A site-specific standard was anticipated to be applicable to the site because the groundwater was present within a perched aquifer. Perched water was encountered in all borehole locations at a depth ranging from 5 to 19 feet bgs. The discontinuous saturated zones were encountered in coarser deposits and were characterized as “perched” water rather than a regional water-table aquifer.

The Draft Limited Phase II ESA report recommended the evaluation of the indoor air pathway to achieve closure using the site-specific standard. Results obtained by PADEP included a EMSL Analytical Inc. laboratory report with indoor air analytical results from a March 26, 2007 sampling event and a draft summary table. As summarized in the draft table, concentrations of the detected compounds were below Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs). Four 8-hour composite and two 12-hour composite samples were collected from various class rooms and analyzed for Toxic Organic (TO)-15 compounds.

On March 27, 2009, Blackstone supplied a Well Abandonment Activities letter to CMS Companies describing the abandonment of monitoring wells MW-07, MW-08, MW-09, and MW-10 that had been conducted on March 25, 2009 at the request of the latter. The total depths of these monitoring wells were noted in the letter to range from 16 to 40 feet.

Inspection

On September 12, 1984 (under the occupancy of ISC), a hazardous waste inspection noted that a still had been purchased to process Freon (at 300 gallons per day) from a vapor degreaser. A

smaller still was in operation and the cooling water was being discharged to the storm drain. It was recommended in the inspection report by PADEP that the discharge be redirected to the sewer. A PPC plan was not found; however, four other previously identified violations had been corrected.

On January 26, 1989, PADEP inspected the facility for hazardous waste generation activity and noted that wastes were generated from vapor degreasers and waste isomer foams. Freon (under the trade name "Gensolv") was noted to be recycled at the facility. It was also noted that still bottoms (labeled as "waste solvent") were not labeled as a hazardous waste. PADEP recommended that a determination of the hazardous waste nature of the waste foams be made. Documentation identified the foam waste as non-hazardous. Finally, PADEP required that the receipts from Safety Kleen (as the receiving TSD) be supplied. On February 16, 1989 in an internal memo, Ferranti International Signal, Inc. discussed the recycling of the waste "Gensolv". On February 17, 1989, ISC Technologies submitted a letter to PADEP providing the information requested at the inspection.

As reported in a December 13, 1989 letter from Ferranti International Defense Systems Inc. to PADEP, an inspection was conducted on April 11, 1989. The letter provided updates on the status of the corrective measures taken at the facility. A Safety Storage Containment Building was delivered to the facility on November 30, 1989 for use as a hazardous waste storage building. In addition, key facility personnel completed 40 hours of safety training for hazardous materials. On August 29, 1991, the facility was inspected for hazardous waste generation activity, and it was considered to be a small quantity generator (SQG). It was noted that the facility was in the process of closing.

On September 1, 1992, a "closeout inspection" noted that the facility (Ferranti Technologies, Inc.) was no longer producing any waste. Two issues that remained to be addressed were as follows: 1) the fate of two drums ("Gensolv" and Toluene Diisocyanate), and 2) the inspection of one of the two magazines that could not be inspected to verify that it no longer contained explosives. PADEP stated the facility does not generate hazardous waste and recommended that they request EPA remove their disposal ID number. On December 17, 1992, Ferranti International submitted a letter to PADEP answering a question from the inspection: the two 55-gallon drums of chemicals, one Gensolv and one PE-18AS (toluene diisocyanate) were unused commercial products (virgin chemicals) and they were transferred to another facility. On March

3, 1993 Ferranti International submitted a letter to PADEP verifying no explosives were contained within the magazine and that the magazine was moved to another facility on February 28, 1993 when the building was vacated.

A subsequent inspection on March 4, 1993 revealed that no wastes were present, and the facility informed PADEP that the drums had been moved to another facility. The inspection also noted that no explosives had been found during the September 1992 inspection of the magazines at the property and they were subsequently moved to another facility (mentioned March 3, 1993 letter). Again, the inspector recommended the facility contact USEPA to remove its disposal ID number.

On July 9, 1997, a hazardous waste inspection report noted that the Emtrol facility had moved from *123 Locust Street* to *3050 Hempland Road* in 1995. (Note: The 123 Locust facility had operated under USEPA ID PAD003022084 prior to 1995)

C. Description of Exposure Pathways for all Releases or Potential Releases

Air: The population of East Hempfield Township according to the year 2000 census was approximately 21,000. The facility is no longer in operation. However, subsurface releases of VOCs have occurred and a vapor-intrusion evaluation was conducted on March 2007.

Groundwater: The Draft Limited Phase II ESA described the groundwater encountered as a perched layer of groundwater ranging from approximately 5 to more than 19 feet bgs. These discontinuous saturated zones were encountered in coarser deposits and were characterized as “perched” water. According to this report, based on area topography and field observations, groundwater in the region was anticipated to flow to the southeast. The bedrock aquifer beneath the region was expected to be “carbonate aquifers”, which are the primary water-bearing formations in Pennsylvania.

The facility is supplied by Lancaster City Water Bureau. There is no information to suggest that onsite production wells are present and being used at the facility. Groundwater wells are not used at the facility. Documentation appended to this Phase I EA indicated the presence of 10 groundwater wells within a 1-mile radius surrounding the facility, including a public water supply well within a

0.5 to 1.0 mile radius north of the facility, and two wells within a 0.25 to 0.5 mile radius in a southeasterly direction.

Surface Water: The facility did not operate under a NPDES permit. The only surface water features present at the facility are the drains located in the parking lots surrounding the building, as noted during the site visit in 2009. Landscaped and grass-covered areas are present outside the paved parking areas. No wetlands or ponded areas were documented in the Draft Phase I ESA.

Soil: The regional soil was characterized as moderately permeable, friable silty loam (Blackstone, 2007). The bedrock beneath the surficial deposits was expected to be stratified sequence shale and limestone (Cambrian-age Kinzers Formation). Soil borings presented in the Draft Limited Phase II ESA indicated the presence of typically clayey soil along the southern side of the building where the contamination was prevalent and silty sand along the northwestern side of the building. The area immediately adjacent to the building was observed to be paved. Areas further away toward the east and north were grass-covered.

D. Exposure Pathway Controls and/or Release Controls Instituted at the Facility

Air: USEPA has requested that the vapor intrusion pathway be evaluated as part of the EI process. The USEPA 2002 OSWER *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)* provides a methodology for vapor intrusion evaluation under current land use conditions using available site data. It should be noted that the USEPA 2002 guidance is not generally recommended for use in evaluating settings that are primarily occupational. However, the PADEP Act 2 vapor intrusion guidance (specifically, *Land Recycling Program Technical Guidance Manual – Section IV.A.4, Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard*) can be applied to both residential and nonresidential receptors. This guidance provides decision matrices for soil and groundwater (under a Statewide Health or generic approach) for determining if indoor air quality is a concern. Therefore, the Technical Guidance Manual was used to evaluate a potential vapor intrusion pathway in this EI Report.

As previously mentioned, analytical results presented in the Draft Limited Phase II ESA and

additional laboratory reports demonstrated concentrations of PCE, TCE, 1,1-DCE, and 1,1-TCA in groundwater in the immediate vicinity of the building. Samples from monitoring wells MW-7 and MW-10 that were located closest to the southern side and southwestern corner of the building contained the highest concentrations of chlorinated VOCs. Soil boring logs from the six boreholes (SB-01 through SB-06) indicated the presence of typically clayey soil along the southern side of the building where the contamination was prevalent and silty sand along the northwestern side of the building. The Draft Limited Phase II ESA report also indicates groundwater was encountered in all boreholes at the site. The depth to groundwater in the boreholes ranged from approximately 5 feet below the surface to more than 19 feet below the surface. While boring logs were not available for monitoring wells MW-7 through MW-10, the driller's Water Well Completion Reports indicate groundwater levels were similar to the initial soil borings. Additionally, no evidence of preferential pathways was noted during the 2008 site visit. Therefore, since available information indicates at least five feet of soil-like material between the building and groundwater, the PADEP derived values were used to screen the detected VOCs for potential impact to indoor air. Maximum detected concentrations were compared to the PADEP derived values. The results of the screening are presented in the table below.

VOC	Maximum Concentration in Groundwater (µg/L)	PADEP Groundwater Screening Value (µg/L) for Protection of Indoor Air: Nonresidential
PCE	42	70,000
TCE	21	24,000
1,1-DCE	98	220,000
1,1,1-TCA	54	NOC

Note: NOC – Not of concern, value exceeds constituent water solubility

As noted in the table, the maximum detected VOC concentrations are well below the PADEP derived values. Therefore, it can be concluded that the subsurface vapor to indoor air pathway is not a concern, assuming a nonresidential exposure scenario.

Additionally, it should be noted that indoor air analytical results (chain-of-custody attached to a laboratory report dated April 4, 2007) of four 8-hour and two 12-hour composite samples that were collected from various class rooms in the building and analyzed for TO-15 compounds. The results showed that concentrations of the detected compounds were below OSHA PELs.

Groundwater: Groundwater data were presented in the Draft Limited Phase II ESA and in an additional laboratory reports. A comparison of the data to NR MSCs for used aquifers containing less than 2,500 mg/L of TDS was conducted. Note: Although the postal address for the facility is within Lancaster, Pennsylvania, it is not physically located within the non-use aquifer zones defined by the City of Lancaster, and approved by PADEP (November 20, 2007). At SB-03, located outside the southern central portion of the facility building, concentrations of PCE (6.3 µg/L), TCE (9.6 µg/L), and 1,1-DCE (84 µg/L) exceeded their NR MSCs of 5 µg/L, 5 µg/L, and 7 µg/L, respectively. At SB-01 (located east of the building), TCE (5.2 µg/L) exceeded its NR MSC (5 µg/L). Samples from monitoring wells MW-7 and MW-10, located closest to the southern side and southwestern corner of the building, contained the highest concentrations of chlorinated VOCs. MW-8 and MW-9, located further south of the building, contained significantly lower concentrations of these compounds. The groundwater sample from MW-7 contained PCE (42 µg/L), TCE (11 µg/L), and 1,1-DCE (88 µg/L) at concentrations exceeding their respective NR MSCs of 5 µg/L, 5 µg/L, and 7 µg/L. The sample from MW-10 contained 1,1-DCE (98 µg/L) and TCE (21 µg/L), exceeding their respective NR MSCs of 7 µg/L and 5 µg/L. Although the parent compound of 1,1-DCE, (i.e. 1,1,1-TCA, the solvent that is likely to have been historically used at the facility) was also detected in the groundwater samples collected from MW-7 (29 µg/L) and MW-10 (54 µg/L), the concentrations were below its NR MSC of 200 µg/L. The breakdown products of TCE (i.e., 1,2-dichloroethylene and vinyl chloride) were not detected in any groundwater samples.

The facility uses public water and no production wells are known to be present at the facility, therefore, contaminated groundwater present within the perched groundwater zone is unlikely to be used. However, since groundwater was encountered at a depth of 5 feet and contained chlorinated VOCs exceeding MSCs, a health and safety plan (to protect a construction worker) is recommended for any future excavation work.

Furthermore, the contamination could migrate horizontally in the shallow perched zones or into the deeper aquifer if site conditions are not appropriately controlled. Inadequate monitoring has been conducted to determine whether the site conditions are such that migration has stabilized. Documentation appended to the Phase I EA indicated the presence of 10 groundwater wells within a 1-mile radius surrounding the facility, including a public water supply well within a 0.5 to 1.0 mile radius north of the facility, and two wells within a 0.25 to 0.5 mile radius in a southeasterly direction. The depths of the intakes of these wells or the status of their users are unknown. Pennsylvania Groundwater Information System (PAGWIS) indicates that at least one

domestic well (total depth 129 feet; static water level recorded at approximately 46 feet) owned by Frank Henne, installed in 1946, may be present within approximately 0.5 miles southeast of the facility. There are no controls by the local municipality on use of groundwater for potable purposes, therefore, the current status of potential direct human exposure to groundwater contaminants because of the migration of releases from this facility is indeterminate.

Lastly, if the former septic system was used as a discharge location for solvents during the operation of ISC, as reported in the Draft Phase I ESA, it is a potential area of concern (AOC) that has not been identified in previous investigations. The location is reportedly near the western side of the property, however, its exact location is not known. No investigation of closure status is known.

Surface Water: No surface water exposure pathways are presently known.

Soil: Soil samples were collected from six soil borings. VOCs were detected at less than the R and NR MSCs. However, the location of a former septic system, where solvents may have been discharged during a period of the ISC's operation, may or may not have been targeted for investigation. Therefore, the extent of subsurface soil contamination has been inadequately defined.

Current exposures to surface soil are considered under control since the majority of the facility is covered by the building and surrounding parking lots. Since the location of the former septic system was not investigated, a health and safety plan (to protect a construction worker) is recommended for any future excavation work. Therefore, potential subsurface soil exposures are indeterminate because contamination is unknown.

E. Follow-up Action Items

USEPA Region III will decide if additional information or sampling at the facility is required to determine whether or not the environmental indicators have been met or if corrective action is required for the facility.